TUMORS OF THE MESENTERY.[1]

WITH REPORT OF A CASE OF FIBROMA.

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INNOCENT tumors of the mesentery might be said to be very rare, cysts being the most common. Of the solid tumors, lipomas seem to predominate, fibromas being the most rare. Benign tumors may occur in any portion of the peritoneum, but more especially in the omentum and mesentery. They may be either single or multiple. The omental tumors are usually not omental—that is, they usually originate in some other organ.

Lipomas in the subperitoneal tissues of the anterior abdominal wall have been repeatedly described. They usually protrude into the abdominal cavity, and vary greatly in size. They may also be present in the omentum and mesentery. They may grow to enormous size, so as to fill the entire abdominal cavity.

Fibromas of the peritoneum, the most rare, must be distinguished from so-called fibrous peritonitis, in which the peritoneum is uniformly covered with fibrous-tissue overgrowth. The larger fibromas may be as large as an adult's head or larger. Lexer removed a fibroma weighing five pounds from the mesentery of a man aged forty-five years, who had suffered with colic for several weeks.

It is possible for a fibroma to be detached from a broad ligament or uterus, and reattached in some mesenteric region, but this is probably rare.

Anderson quotes a remarkable case in which there were twenty-one fibromas, the largest weighing over seven pounds.

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Dr. Vance says mesenteric tumors were described as early as 1803 by Portal, and classified by him as scirrhous, stony, cancerous and hydatid. He describes the diagnostic features clinically and points out the difficulty of differentiating between mesenteric and omental tumors. His work was post-mortem. We hear nothing more of mesenteric tumors till 1880, when Tillaux reported a case of cyst of the mesentery successfully removed. In the same year Pean reported three such cases operated on by him, giving the diagnosis and treatment. In the next few years numerous cases of cysts were reported, but reports of solid tumors were exceedingly rare. So rare was this condition of solid tumors of the mesentery that Mr. Lockwood states that no such tumor had been exhibited to either the London Pathological or Medical Society prior to 1895. In 1897 Mr. Shield reported a case to the Medico-Chirurgical Society of London, at which time the subject was quite unfamiliar to that society. Douglas read a paper on this subject before the Southern Surgical and Gynæcological Society in 1898, and no surgeon present had had any operative experience with these tumors. Dr. Vance reports a tabulated comparison of solid tumors of the mesentery. Out of 27 cases there were nine of fibromata and two myxofibromata.

As to etiology we know nothing. Trauma is said to be a cause. Most of the tumors become rapidly malignant. The origin is generally between the folds of the mesentery, or else retroperitoneal.

The diagnosis is never certain and generally it is not known until the abdomen is opened.

Theoretically, we should expect two prominent diagnostic symptoms: intestinal obstruction, and resonance on percussion, but these symptoms are usually absent. One important symptom in this case, which I believe to be a common one in mesenteric tumors, was the free mobility.

I do not believe that it is possible, even if it is known that there is a tumor of the mesentery, to make out whether it is solid or cystic, as statistics show that most solid tumors of the

mesentery or omentum give the sensation of fluctuation, and I notice that two cases besides my own were aspirated during the operation with the expectation of finding fluid.

Treatment can only be surgical. The mortality certainly is high, but the probabilities are that if these cases were brought to operation early, before the pressure causes so many adhesions, the hæmorrhage and shock would be less and consequently the death-rate lower. In view of the rarity of fibromas of the mesentery I venture to report a recent case:

CASE HISTORY: Miss Grace ———, aged 15 years. She had noticed no change in health until November, 1904, when at this month she missed her menstrual period. Her mother noticed also that she complained of nausea, especially in the afternoon and evening. On consulting a doctor, he gave her some simple remedies, without much relief. She was working in a factory and had to give up her position. She gradually lost flesh, had nausea constantly in the afternoon, and in the following March she noticed an enlargement on the left side of the abdomen on a level with the umbilicus. This growth enlarged and when she again consulted her doctor, he advised her to go to the hospital, when two surgeons saw her in consultation and advised an operation. She was prepared for operation and placed on the table, and when under the anæsthetic the tumor disappeared. The doctors thought probably it might be a cyst which had ruptured. The anæsthetic was withdrawn, and when the patient became fully conscious the tumor reappeared. This was positive evidence that the tumor was still present and not ruptured.

I saw her some six weeks later, she having been referred to me by Dr. Haning. Upon examination I found the tumor lying on the left side, the lower border being on a level with the umbilicus, ovoid in shape, with its greatest diameter transverse to the abdomen. There seemed to be an indistinct fluctuation. The girl was emaciated, quite pale, and had not menstruated for seven months. Upon inquiry into her childhood period we found that she had had measles and mumps several years before, but had had no sick spell of any consequence in the last few years. She had been robust, apparently perfectly well, until the missing of the menstrual period in November. From this time on, as before

stated, she had constant nausea in the afternoon and evening, feeling perfectly well in the morning and at night. She had begun to menstruate between thirteenth and fourteenth years of age, and had menstruated regularly and normally until this time. She was troubled with constipation, had cramp-like pains in the left side, was slightly tender on pressure, and had a little gaseous distention, probably due to the obstruction by pressure in the abdomen. Urinalysis negative.

She was sent to the hospital and after due preparation was anæsthetized and, as in the first anæsthesia, the tumor disappeared. Knowing of its reappearance before, we made an exploratory incision and found the tumor in the lesser omental cavity. There were very firm adhesions to the middle of the posterior wall of the stomach, and it was attached by a short pedicle to the transverse mesocolon, from which it seemed to spring. There was fluctuation, as if it contained a semi-fluid, and being firmly attached, we punctured it, expecting to lessen its size, but found that it was a solid tumor. We then tied off its attachment to the stomach, and cut same, and rapidly peeled it out from its other attachment, except the mesenteric. This we ligated in two parts and severed. The hæmorrhage was very free, so much so that we could hardly find the bleeding vessels. As a consequence, we packed the wound with a large amount of gauze wrung out of hot salt-solution, and made strong pressure from above for five minutes, until the capillary hæmorrhage ceased.

We then cautiously pulled out the abdominal pads and picked up the bleeding arteries and ligated. Still having some oozing, we packed the cavity lightly with gauze and drew out the end from upper edge of the wound, leaving two stitches untied. After twelve hours we pulled out one-half of the gauze and at the end of twenty-four hours drew out the remainder, and tied the last stitches.

The shock was quite severe, and this, coupled with extreme hæmorrhage, necessitated our transfusing and stimulating the patient to the extreme. She made, however, an uninterrupted recovery, and has since gained fifteen pounds. She has menstruated twice since the operation, and her mother says that the menstruation appeared to be normal in every way.

Upon examination we found the tumor to be about four inches long, three inches wide and one and one-half inches thick.

It was very flabby, as though it contained fluid, and even after it was removed one of the assistants suggested that there must be fluid in the center of the tumor, but upon cutting it open we found it to be entirely solid. I think that this is a common histological feature of fibromas of the mesentery. In two similar cases recorded aspiration was attempted during operation. We submitted the specimen to the pathologist, Dr. D. B. Conklin, and by his courtesy we are able to submit the following report:

Specimen discoid in shape and flat antero-posteriorly. Size 10.5 cm. long, 9.25 cm. wide and 3.75 cm. thick. Surface smooth and apparently covered with peritoneum, with a pedicle on the posterior flat surface, with a lateral insertion. Tumor soft and elastic to the touch and resembling a soft uterine fibroma. Color dark red and mottled. Sections were taken from the superficial and deep portions of the tumor and stained with eosin and hæmatoxylin. Microscopically the sections were made up of flattened or spindle-shaped cells of fibrillar connective tissue, with very irregular arrangement of fibres and relatively small amount of intercellular substance. There were many blood-vessels to be seen and a considerable degree of œdema was present. Section taken from the periphery of the tumor showed it to be covered with peritoneum.

ABSTRACTS OF REPORTED CASES OF FIBROMA AND FIBROMYOMA OF THE MESENTERY REMOVED BY OPERATION.

No. 1. Pean. Sex and age.—Female, 40. Clinical symptoms.—Tumor reaching from epigastrium to pelvic cavity, dull on percussion, fluctuating at certain points. Diagnosis: Ovarian cyst. Operation.—Old, vascular, parietal adhesions. On puncture no fluid came away. Enucleation, ligature of a pedicle of connective tissue attached to lumbar spine and of another pedicle insertion on pelvic brim. Both pedicles fixed to lower angle of abdominal wound. Weight and nature of tumor.—Over 7.5 pounds. Pure fibroma, very soft. Result of operation.—Speedy recovery, no recurrence.

No. 2. Folet. Sex and age.—Female, 20. Clinical symptoms.—Abdominal swelling about one year; pregnancy, and later ovarian cyst suspected. Tumor size of man's head, resonance over portions of its left side. Operation.—Trifling parietal adhesions. On puncture no fluid came away. Layers of mesentery almost evenly opened up and strongly adherent to tumor. Damage to intestine, much resected, segment fixed to abdominal wound. Enucleation, but base adherent to aorta, and vena cava not removed. Weight and nature of tumor.—Weight not given. A very firm, uniformly white, fibrous tumor. Result of operation.—Death in twenty-four hours; the resection had proved a failure, turbid fluid in pelvis.

No. 3. Brookhouse. Sex and age.—Male, 56. Clinical symptoms.—Weak health two years, tumor noticed ten months, reached from epigas-

trium to pubes, and extended into flanks. Very hard, smooth, movable to a certain extent, painless. Operation.—Anterior layer of mesentery forming capsule to tumor divided. Enucleation (easy, little hæmorrhage). A flap of redundant capsule cut off. Parietal wound closed. Weight and nature of tumor.—13.25 pounds. Dense fibrous tissue, small cystic cavities. Result of operation.—Death in thirty-two hours, ascribed to shock.

No. 4. Müller (Aix-la-Chapelle). Sex and age.—Female, 33. Clinical symptoms.—Pains in abdomen several years; frequent diarrhœa. Tumor came down into pelvis. Diagnosis: Ovarian dermoid. Operation.—Tumor invested by both layers of mesentery corresponding to jejunum; 11 inches of adherent bowel resected; suspicious mesenteric glands removed, pedicle of connective tissue containing large vessels ligatured and divided; upper end of intestine implanted into lower end, the extremity of which was fixed to lower angle of wound. Weight and nature of tumor.—Weight not given. A large, fibrous mass, free from malignant elements. Result of operation.—Early sloughing of divided end of lower part of intestine. Nine months later the patient was free from recurrence.

No. 5. Folet. *Loc. cit.* Beguin. Sex and age.—Female, 10. Clinical symptoms.—A very movable hypogastric tumor of the size of two fists; no discomfort; discovered by accident. Operation.—Tumor invested by mesentery; easy enucleation, little hæmorrhage, capsule dropped and abdominal wound closed. Weight and nature of tumor.—Over 4 pounds 6 ounces. A pure fibroma. Result of operation.—Speedy recovery.

No. 6. Richelot. *Loc. cit.* Beguin. Sex and age.—Female, 16. Clinical symptoms.—Two years tumor in umbilical region; dull, as big as fetal head at term. Operation.—Omental adhesions; tumor covered by intestines, connected with its capsule; enucleation easy, tumor sloughy, fetid. Capsule fixed to parietes and drained. Weight and nature of tumor.—Three pounds. Fibroma, sloughing in center. Result of operation.—Death seventh day. Purulent peritonitis around sutures fixing capsule.

No. 7. Binaud and Beguin. *Loc. cit.* Beguin. Sex and age.—Female, 50. Clinical symptoms.—One year tumor; hard, tuberous, movable; only most prominent part dull on percussion; situated chiefly in right iliac fossa. Sarcoma of ovary diagnosed. Operation.—Tumor invested by mesentery; lower part of ileum crossed anterior surface of capsule. Incision parallel to vessels on capsule; enucleation; right ureter had to be dissected off lower pole; hæmorrhage trifling. Inner surfaces of capsule brought together by sutures; peritoneal cavity closed, no drainage. Weight and nature of tumor.—Weight not given. A dense fibromyoma. Result of operation.—Fetid stools after fourth day; sudden death eighteenth day.

No. 8. Spencer Wells. *Loc. cit.* Beguin. Sex and age.—Female, 40. Clinical symptoms.—Four years' pain in iliac region and abdominal enlargement, which at last increased rapidly with apparent diminution at menstrual periods. Solid, central, movable, size of adult head. Operation.—Solid tumor; "its origin was clearly in the cellular tissue at the root of the mesentery proper, near the lumbar vertebræ." Ascending colon in front and to right. Blood-supply entirely from the mesenteric vessels. Enucleation, wound closed. No drainage. Weight and nature of tumor.—

Weight not given. A fibroma or fibromyoma erroneously tabulated as "sarcoma" by several writers. Result of operation.—The patient lived over eighteen years and died without any signs of malignant disease.

No. 9. Marmaduke Shield. Loc. cit. Beguin. Sex and age.—Female, 50. Clinical symptoms.—Complete procidentia for a year, abdominal swelling noticed four months. Tumor extending from ensiform cartilage down into pelvis, elastic semi-fluctuating, but no thrill on percussion. Diagnosis: Ovarian tumor. Operation.—Transverse colon and much small intestine flattened out on capsule of tumor. Strong adhesions of capsule to parietes and to tumor anteriorly; enucleation from tissues behind easy. Large vessels required ligature. Drainage. Weight and nature of tumor.—Over 9 pounds. Œdematous (myxomatous), soft fibromyoma. Result of operation.—Recovery.

No. 10. Shepherd (Montreal). Sex and age.—Male, 28. Clinical symptoms.—No pain, good health, abdominal enlargement one year. Tumor detected three months; reached from ensiform cartilage to pubes, hard, freely movable. Dullness anteriorly, resonance in flanks. Operation.—Firm parietal adhesions separated. Tumor intimately blended with its capsule of mesentery; 7 feet 8 inches of ileum resected, end-to-end anastomosis. Weight and nature of tumor.—Thirteen pounds. Fibromyxoma. Result of operation.—Recovery. Troublesome diarrhœa at first. In eight months good health.

No. 11.—Lexer. Sex and age.—Male, 41. Clinical symptoms.—Colicky pains in abdomen, turned attention to hard tumor, size of a child's head, very movable. Operation.—Tumor invested completely by mesentery; a pedicle posteriorly including connective tissue and vessels and a long coil of intestine ran on from surface. Pedicle ligatured; about 6.5 feet intestine resected. Abdominal wound closed. Weight and nature of tumor.—Five pounds. Fibroma, with myxomatous portions. Result of operation.—Discharged from hospital cured six weeks after operation.

No. 12. Murphy. Sex and age.—Female, 26. Clinical symptoms.—Round hard tumor, in left side pelvic cavity and iliac fossa; could be pushed into abdomen. Moved independently of uterus. Diagnosis: Fibroma of the ovary. Operation.—Hard tumor, ovoid, only 3 inches in diameter; invested completely and evenly by the layers of the mesentery; two feet of ileum resected; Murphy's button. Weight and nature of tumor.—No weight given. Fibroma of mesentery. Result of operation.—The Murphy's button was passed on twelfth day. No later history.

No. 13. Doran. Sex and age.—Female, 34. Clinical symptoms.—Painless swelling observed about six months. Bulky tumor filling abdomen and reaching pelvic brim and pushing uterus backwards. Soft, dull, with thrill on percussion. Diagnosis: Ovarian cyst. Operation.—Tumor tapped, little or no fluid came away; it was invested by anterior or upper layer of the mesentery; small intestines closely applied to its left border. Enucleation easy; large vessels in posterior and inferior part of capsule required ligature. Lower part of capsule fixed to lower angle of wound and drained. Weight and nature of tumor.—Thirty pounds, with two pints of serum. Fibromyoma undergoing myxomatous degeneration.

Result of operation.—Recovered; in good health three months after the operation.

No. 14. Bowers. Sex and age.—Female, 16. Clinical symptoms.—Seven months tumor. Pain and tumor left side on level of umbilicus. Freely movable. Menstruation stopped. Size large orange. Operation.—Tumor in lesser omental cavity. Strong adhesion to posterior wall of stomach. Light adhesion to surrounding structures. Pedicle attached to mesentery of transverse colon. Seemed to contain fluid. Aspirated and found to be solid. Weight and nature of tumor.—Fibroma, soft, fluctuating, discoid in shape. Result of operation.—Uneventful recovery.

No. 15. James Vance. Sex and age.—Female, 26. Clinical symptoms.—Increasing pain and discomfort for two months. Patient anæmic, cachectic, much emaciated. Nodular tumor occupying all the abdominal cavity from just below the ensiform cartilage to the pubes. Operation.—Abdomen opened, a large, round, solid tumor appeared at the upper angle of the incision, and from this solid tumor above, conforming to the contour of the abdomen, extending into the pelvis and involving the peritoneum, was the rest of the tumor, which was soft, mushy and slimy to feel; bled at every touch and exceedingly friable, without capsule or other covering and of a raw, dark red color. Pedicle of tumor easily tied off and the tumor cut away. Cavity packed with gauze, ends of the compression packs brought out of the lower angle of the wound and the abdomen closed. Death five days after operation. Weight and nature of tumor.—Fifteen cm. in diameter. Weight, 5.7 kg. (about 8¼ pounds). Fibroid with neontic degeneration in center, characteristic of round-celled sarcoma. Tumor was of the most malignant growth, and had been carried for years. Result of operation.—Death fifth day after operation.

No. 16. Dallman. Sex and age.—Male, 40. Clinical symptoms.—Constipation, bowels moving only by enemata, headache and intestinal indigestion. Symptoms for five months. Operation.—Incision from xiphoid to symphysis. Large tumor removed with difficulty from mesentery along side of vertebral column. Weight and nature of tumor.—Numerous nodular fibroid masses. Result of operation.—Cured twenty-sixth day.

No. 17. Gildermeister. Sex and age.—Female, 22. Clinical symptoms.—Obstipation with vomiting, which became fecal three days prior to operation. Operation.—Median incision and small tumor removed from front of vertebral column folds of mesentery. Weight and nature of tumor.—Fibroma with points of calcareous degeneration. Result of operation.—Recovery in twenty days.

No. 18. Ibid. Sex and age.—Female, 38. Clinical symptoms.—Premature birth one year ago, since which she noticed a movable tumor in the abdomen. Pain, constipation and dyspnœa; three months pregnant at time of operation. Operation.—Tumor removed with adherent intestine. Murphy button with anastomosis. Weight and nature of tumor.—Fibroma. Result of operation.—Recovery.

No. 19. Ibid. Sex and age.—Female, 33. Clinical symptoms.—Swelling in abdomen noticed for four years. Severe pain and diarrhœa last three months. Operation.—Tumor very adherent, removed along with

adherent intestine. Resected 23 cm. of gut. Weight and nature of tumor.—Fibroma. Result of operation.—Recovery.

No. 20. Ibid. Sex and age.—Male, 41. Clinical symptoms.—Since six months has noticed hard mass size of child's head in abdomen. Freely movable. Operation.—Tumor removed from between folds of mesentery. Resection 2 cm. Weight and nature of tumor.—2½ kg. Fibroma. Result of operation.—Recovery.

No. 21. Ibid. Sex and age.—Female, 42. Clinical symptoms.—Large growth in abdomen, giving a circumference measuring 2 meters at umbilicus. Operation.—Tumor easily removed. Origin, attachment between folds of mesentery. Weight and nature of tumor.—Twenty kg. Myofibroma. Result of operation.—Recovery.

No. 22. Duranona, L. Sex and age.—Female, 42. Clinical symptoms.—Began with abdominal pain three years ago, with enlargement. Menstruation regular. Abdomen measures 85 cm. in circumference. Operation.—Tumor removed, adhesion to intestines and epiploon. Weight and nature of tumor.—Lobulated fibroma. Result of operation.—Recovery.

No. 23. Kengla, Louis A. Sex and age.—Male, 70. Clinical symptoms.—Enlargement of abdomen first noticed three years previously. No pain or discomfort, but obstipation, which led him to consult his physician. Operation.—Tumor and involved bowel removed and anastomosis by Murphy's button. Bowel was peculiarly wrapped around tumor. Resection of involved intestine 87 inches. Weight and nature of tumor.—4½. Pure fibroma. Result of operation.—Death on third day.

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